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PHARMACODYNAMIC CONSIDERATIONS AND CLINICAL IMPACT OF DUAL ANTIPLATELET THERAPY INTERRUPTION AFTER RESOLUTE ZOTAROLIMUS-ELUTING STENT IMPLANTATION

Oral Contributions
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Background: Dual antiplatelet therapy (DAPT) of aspirin plus a thienopyridine is prescribed for 6-12 months following percutaneous coronary intervention (PCI) with a drug eluting stent (DES) based on observations of increased risk for thrombotic events that include stent thrombosis (ST), cardiac death (CD) and myocardial infarction (MI). While the effect of antiplatelet drugs on platelet aggregation varies among patients, antiplatelet drug discontinuation of at least 3 days is necessary for platelet function recovery in most individuals. We therefore determined that an evaluation of DAPT interruption (aspirin, thienopyridine or both agents) >3 days provides a conservative estimate of meaningful DAPT interruption duration while still capturing the risk for thrombotic events to occur due to the lack of antiplatelet therapy.

Methods: Patient data from 8 RESOLUTE clinical trials was pooled, and 1 year data from 7131 patients implanted with a Resolute™ zotarolimus-eluting stent (R-ZES) were analyzed according to DAPT status. ST, CD and target vessel MI events were assessed based on whether the first DAPT interruption of >3 days occurred in the first month or between 1-12 months after PCI.

Results: Among patients with a DAPT interruption >3 days, the mean age was 65 years; 32% were diabetic and 45% had an acute coronary syndrome. There were 1245 (17.5%) patients with an interruption of DAPT >3 days during the first year after R-ZES implantation; 187 (2.6% of the overall study cohort) had a first interruption within 1 month; 7 ARC definite/probable early ST events occurred (3.74%). There were no ST events in the 1058 patients with DAPT interruption >3 days between 1-12 months after R-ZES implantation. The rate of CD/TVMI was 6.1% (13/214) in the 0-1 month group and 1.1% (11/1027) in the 1-12 month group. The rate of ST in patients with no DAPT interruption >3 days was 0.73% (43/5886) and CD/TVMI occurred in 4.0% (235/5889) of patients (P=0.002 and P<0.001 vs 1-12 months group for ST and CD/TVMI).

Conclusion: DAPT interruption for a period (>3 days) that may permit greater platelet function recovery was not associated with an increased risk for ST or CD/TVMI events when occurring more than 1 month after R-ZES placement